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ABSTRACT

This paper provides information concerning preschool narrative development in typically developing North American children, stressing previously documented links between early narrative skills and literacy development. Methods are provided for assessing narrative skills of language-impaired children. The methods involve eliciting from the children personal narratives about real past events. A protocol for eliciting personal event narratives, called the conversational map, is described. The protocol suggests using a story prompt, collecting at least three narratives from each child, using contentless subprompts in response to the child's narration, and minimizing the child's self-consciousness. Scoring procedures are also provided. Transcripts of narratives from specific language-impaired, learning-disabled, and normal children are presented, along with recommendations for evaluating the narratives. In addition, information about cultural differences in narrative development is provided. This information distinguishes between jumbled and incomplete event sequences told by children who have problems with language in general and narrative in particular, and the kind of alternative storytelling styles of children from other cultures. (46 references) (JDD)

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Assessment of Preschool Narrative Skills:

Prerequisite for Literacy

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ABSTRACT

The assessment of discourse skills in young children is an important responsibility facing clinicians today. Early identification of problems in discourse skills and more specifically of narrative abilities is especially important for ascertaining children at risk for later learning and literacy related difficulties. Despite this there are few tools available for the assessment of narrative skills in preschoolers. In this paper, we provide information concerning preschool narrative development in typically developing North American children. In so doing we stress previously documented links between early narrative skills and literacy development. We provide methods for assessing narrative skill of language impaired children. Transcripts of narratives from specific language impaired, learning disabled, and normal children are presented, along with specific recommendations for evaluating these narratives. In addition information about cultural differences in narrative development is provided so that these cultural differences will not be mistaken for individual deficit.

Language-literacy relationships. Like a French braid, language development is composed of multiple strands, including phonology, semantics, syntax and morphology, discourse, and emergent literacy (McCabe, in press). One implication of this insight is that delays in development of any of the language strands may have detrimental effects on learning to read. In fact, studies of language disabled children have found impairments in each strand that are linked to reading problems. Furthermore, prognosis for eventual language and literacy functioning depends upon the particular aspect of language affected. Articulatory problems, for example, are most likely to have no lasting impact on the acquisition of literacy (Hall & Tomblin, 1978).

In contrast, narrative development does have important implications for emergent literacy in preschool children (Dickinson & McCabe, 1991). The ability to tell a coherent narrative predates and predicts successful adaptation to school literacy (e.g., Feagans, 1982). Because early intervention to prevent learning disability is predicated on early assessment of language-related literacy problems, narrative assessment holds promise in this regard. However, at present there are few systematic protocols tied to good developmental research on narrative that would accomplish this assessment. Information about preschool narration is relatively new and has received much less attention than, for example, the link between difficulties in phonological awareness and emergent literacy. The purpose of

this paper is to : (1) discuss normal narrative development, presenting age norms, (2) describe assessment procedures that are mindful of cultural differences and appropriate for preschool children, and (3) present examples of narratives from normal children of other cultures and contrast these with narratives from specific language impaired preschool children.

Links between Preschool Narration and Literacy Acquisition

It now appears that it may be possible to identify children at risk for language-based reading problems in the early phase of language acquisition. One longitudinal study traced the development of four language-delayed children from the time they were 2 1/2 through second grade and found that three of these children later had trouble learning to read, despite an apparent recovery from initial language problems around the age of five (Scarborough and Dobrich, 1990).

Cross-sectional studies of dyslexic readers have identified a number of discourse-level deficits. Disabled readers have been found deficient in tasks that tap oral skills such as the ability to recall highly familiar sequences of events (Feagans & Short, 1984), directions (Feagans & Short, 1986), and narratives (Graybeal, 1981; Weaver & Dickinson, 1982), and to construct narratives, as well (Roth & Spekman, 1986). Dyslexic children seem to have problems not in constructing sentences necessarily, but rather in connecting sentences using conjunctions; when asked to recall stories, they tend to omit causal and temporal links (Liles, 1985; Roth & Spekman, 1986; Weaver & Dickinson, 1982) and

to provide fewer of the important details of stories that are likely to be tested for in schools (Hansen, 1978; Graybeal, 1981; Johnston, 1982; Weaver & Dickinson, 1982; Levi, Musatti, Piredda, & Sechi, 1984; Griffith, Ripich, & Dastoli, 1986; Roth & Spekman, 1986). In general, oral narrative performance predicts literacy achievement (Michaels, 1981; Feagans, 1982).

Discourse-level difficulties associated with reading problems have been found at least as early as kindergarten age. Children's ability to tell a complete version of the Three Bears predicts later reading success (de Hirsch, Janksy, & Langford, 1966). Cross-sectional work also finds a strong relationship between narrative comprehension among kindergartners and other measures of early literacy such as the ability to define words, phonemic awareness and early print skills (Dickinson & Snow, 1987). Deficiencies in discourse skills linked to reading have been found prior to age 5 years. One longitudinal study followed 87 language impaired and normally developing children from ages 4 to 5 1/2 years and found that the ability to recall a short story was the best predictor of language development (Bishop & Edmundson, 1987).

Normal Discourse Development

The most basic feature of language acquisition after the age of five years is the change of function of linguistic categories from the level of the sentence to that of extended discourse (Karmiloff-Smith, 1986). Yet the onset of this process is much earlier, beginning only a few months after sentences are first

formed. At about 22 months (Eisenberg, 1985; Sachs, 1982), children begin to refer to real past events, at first with much assistance from adults. At two years, their narratives often concern negative past events, especially injuries (Miller & Sperry, 1988). Even when they produce fantasy stories, children aged two to five years are preoccupied with themes of aggression, death, hurt or misfortune (Ames, 1966; Pitcher & Prelinger, 1963). Between three and five years of age, children tell each other longer and more complex personal narratives, and increasingly respond to narratives from peers (Umiker-Sebeok, 1979).

Children tell each other many forms of narrative (personal anecdotes, parodies, film retellings, fantasies), but over half of their conversational narratives concern real personal experiences (Preece, 1987). At three and one-half years, children generally combine only two events even in their longest narratives (McCabe & Peterson, 1991), but at four their narratives tend to consist of more than two events. At four, children tend to omit some events necessary for listeners to make sense of their personal narratives and to narrate events out of sequence. By the age of five, however, they rarely have trouble sequencing events in oral narratives (Peterson & McCabe, 1983). Five-year-olds do, nonetheless, tend to end their personal narratives prematurely, dwelling on a climactic event at the end of their narration. Six-year-olds tell a well-formed story that orients a listener to who, what, and where something happened,

narrates a sequence of events that build to some sort of climax or high point, and then goes on to resolve itself by telling how things turned out (Peterson & McCabe, 1983). This High point analysis of the sequence of narrative macrostructural development--two past events to leapfrog to end-at-high-point to classic narrative structure--is depicted in Table 1. The numbers in Table 1 refer to the percentage of children who produced a given structure at each age with the most common structure produced by children at each age presented in bold. Hence, two-event narratives are characteristic of 3 1/2-year-olds and leapfrog narratives composed of many events are characteristic of 4-year-olds, while classic narratives are characteristic of 6-year-olds.

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An exception to the developmental makeup of Table 1 is the position of chronological narratives. Chronological narratives do not follow classic narratives on Table 1 because they are developmentally more advanced. On the contrary, these rather boring stories are relatively unevaluated laundry lists of actions; they are a kind of alternative narrative structure produced by children and adults of all ages (travel stories with slides, for example).

Preschool children are more capable of structuring their oral personal narratives in a sophisticated way than they are at structuring general scripts of personal experience or fictional stories (Hudson & Shapiro, 1991), although this comparative advantage of fact over fiction in terms of structural

sophistication does not apply to the story-writing of older school-aged children (Freedman, 1987), perhaps as a result of increased exposure to fictional stories from books. In spontaneously told fantasy stories, children's plots approximate those of fairy tales between the ages of seven and nine years (Botvin & Sutton-Smith, 1977; Hudson & Shapiro, 1991).

Assessment of Narrative Skill

What is Currently Used:

Thus far we have emphasized the developmental sequence found in the personal event narratives of young North American English-speaking children. However, the construction of fictional stories is the primary genre employed at present to assess the narrative skills of children at risk for language problems. Children aged 6;6 years and above might be assessed using either the Story Construction Subtest of the Detroit Test of Learning Aptitude (DTLA-2) or the Test of Word Finding in Discourse (TWFD), recently developed by Diane German.

We see several problems with this approach to studying narrative skills in children at risk for language learning disability. First, these tests cannot be used with preschool children, yet it would be desirable to assess problems with narrative as an <u>early</u> indication of later reading problems. At present, clinicians are unable to assess reading problems until children start to read and experience failure. Second, learning disabled school-aged children do not have problems with the kind of story grammar assessment often employed by researchers and

clinicians (Graybeal, 1981; Griffith et al., 1986; Johnston, 1982; McConaughy, 1985; Jordan, Murdoch, & Buttsworth, 1991; Merritt & Liles, 1989; Ripich & Griffith, 1988; Roth & Spekman, 1986; Weaver & Dickinson, 1982). Stated differently, several published and unpublished studies have found no differences in the narrative production of children with dyslexia, Specific Language Impairment, and Brain Injury. Some researchers (e.g., Jordan et al., 1991) have attributed their failure to find differences in the story grammar analysis of narrative production by language-impaired and normally developing children to mean that narrative is not impaired in the latter, a conclusion that may be quite erroneous because an insensitive means of scoring narratives was used.

Using a developmentally sensitive approach to analyzing narrative macrostructure described below, McCabe, Bliss and Miranda (in preparation), have found that 8- to 9-year-old Specific Language Impaired children do have substantial narrative impairment. While nonimpaired boys deliver chronologically sequenced chains of actions, language-impaired children deliver what might be termed leapfrog narratives. That is, they tell narratives that resemble those told by normally developing 4-year-old children either in that the narratives leap backward as well as forward in time in terms of event order or that the narratives omit important events such that listeners must do considerably more work to comprehend the stories they tell or both. Alternatively, Specific Language Impaired children engage

in a kind of pseudo-development of their narrative topics either by departing from a true narrative incident to a kind of laundry list of scripts given in future tense or nominally in the past tense. For example, during a narrative about taking the family dog to the vet, one child continued, in the same turn, to discuss what he had for lunch and then whom he kissed before he went to bed. Other S.L.I. children generate happenings related to the discourse theme but do so in an attempt to cover up for their inability to say more about a particular happening. Perhaps most confusing of all are those instances where S.L.I. children haphazardly and for no explicit purpose narrate a seemingly unrelated happening intrusively in the midst of another happening.

A Developmentally Sensitive Means of Assessing Narrative Skill:

Thus, in order to assess the narrative skills of preschool children, the appropriate genre of storytelling must be elicited, namely personal narratives about real past events, something preschool children naturally compose quite frequently (e.g., Preece, 1987). In the next section, we discuss important aspects of eliciting such narratives. In addition, a scoring procedure using a developmentally sensitive approach will also be described.

THE CONVERSATIONAL ELICITATION PROCEDURE

The protocol for eliciting personal event narratives is as important in the assessment process as the narrative itself. The protocol suggested here is a conversational technique developed

by Peterson and McCabe (1983), called the conversational map. An example of a clinician eliciting a personal event narrative from a child using the conversational map may be found in Appendix A. While collecting that narrative, the clinician remembered to: a) use story prompts; b) collect at least three narratives; c) use contentless subprompts in response to the child's answers; and d) minimize the child's self-consciousness. These four points are crucial to narrative collection and a discussion of each follows.

Use a story prompt. You have to tell a story to get a story. Almost everyone has experienced awkward silences in social situations. No one can think of a thing to say. However, the minute one person launches into a tale about locking her keys in her car or leaving her lights on in a parking lot, virtually everyone shares a similar incident that happened to them.

The exact content of a story prompt is not important per se. What is important is that children are asked to talk about experiences that mean something to them. In general, children are likely to tell their best stories about being hurt or scared. These are experiences that all children are likely to have had but that are unusual enough for any particular child to be worth talking about.

Collect at least 3 narratives from each child. No matter what story prompt is used, no story will appeal equally to all children. Not every child has been stung memorably, although most have. Hence to increase the chances of reminding the child of something he or she really wants to talk about, it is

essential that at least three brief anecdotal story prompts be told.[1]

Unfortunately, adults, routinely ask children to talk about things that tend to produce poor narratives even from gifted narrators. One sure-fire bomb is to ask a child about a recently acquired sibling. Most children have almost nothing to say on that subject. Also, avoid prompts about birthday parties, which yield scripts that amalgamate many past parties, not true narratives of specific, singular parties. Avoid prompts about trips, which tend to yield chronological accounts with little more coherence than a travel itinerary.

Occasionally, children will tell you about an experience they have had where some relative, stranger, or pet died. These death narratives are structured differently from other kinds of narratives by normal children (Menig-Peterson & McCabe, 1977) and should never be used for clinical assessment of language problems.

Use a contentless subprompts in response to the child's answers. Narratives are constructed between two people; what is said in part determines what will be heard. Children are

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[1] Note that you can't give the same story prompt to the same child over and over again. In fact, children will resist telling you the same story twice. Evaluation over the course of therapy must be based on, for example, whether high points begin to appear in whatever narrative the child tells you rather than on whether the child inserts such a point into a narrative he has told you before. Perhaps the best way to document progress is to say that "Johnny will exhibit high point evaluation 3 times over 5 sessions."

accustomed to telling stories to parents, who respond to them freely. As professionals, when we elicit narratives from children, we too need to respond. One of the most important reasons for responding is that no response is a response. Children who meet with no response are likely to say very little.

Table 2 lists the kinds of responses that encourage narration while not directly leading children. You may notice that these responses are without content, really just indications of interest in hearing whatever the child wants to say. This is quite deliberate on our part. Just as it is important to avoid too little response, it is also important to avoid saying too much, evaluating the child's story for them, etc. The more the adult does, the less chance there is to see what the children can do on their own. Unfortunately, it is particularly difficult to restrain commentary when dealing with children who are having a hard time conveying their story. These are the very children who are most likely to have problems and need a careful assessment. With practice, however, it becomes more natural to avoid overt commentary.

Insert Table 2 about here

Minimize the child's self-consciousness. In order to collect narratives worth analyzing, it is critical that the focus be taken off of the language and narrative exchange per se. A successful technique is to have the child draw a picture

(Peterson & McCabe, 1983). This is a good way to get to know a child and would come quite naturally at the beginning of an evaluation session.

Alternatively, during a hectic diagnostic session, conversational narratives could be collected during a break between more formal testing. Wherever you place this, children will say much more if they do not see it as a test.

Don't rush the child. It is important not to rush through the collection of personal event narratives. Even though they may be collected during breaks between more formal tests, narratives are an important part of the assessment procedure and care needs to be taken to allow the child time to communicate his or her message. These narratives from children are not test scores taken from a standardized battery. Instead, these are stories that are meaningful expressions of who the child is and what he or she has experienced. For many reasons, then, it is important to take your time in listening to children's narratives.

SCORING

For scoring, **select the longest narrative.** McCabe & Peterson (under review) have found that the length of a narrative is a good rough indicator of its complexity. Therefore, in order to obtain a fair estimate of the upper bounds of children's performance their longest narrative should be used for scoring.

IDENTIFYING THE NARRATIVE MACRO-STRUCTURE

Figure 1 depicts a series of questions to be used for scoring

Insert Figure 1 about here

narrative structure. You may notice that yes answers allow you to proceed to the next question, while no answers result in the determination of the type of narrative structure displayed. For example both narratives one and two have more than two past events or action words. Both of these narratives are about being stung by a bee, an event which has a temporal sequence in the real world. Both narratives unfold in such a manner that the events mimic the order in which they happened. Narrative One, however, does not have a high point. There is no emotional heart of the story. No evaluation takes place. Narrative One is a simple chronology, a listing of unevaluated events. In contrast, narrative two does have a high point. The child uses repetition, evaluating her response to the bee sting, "I screamed and I screamed. I cried and I cried. I screamed and I screamed." In addition, Narrative Two has a resolution. The child lets us know that everything really did turn out alright; in fact she "got to sleep overnight with my neighbor". In scoring Narrative Two we answered yes to all of the questions to find a classic narrative structure.

Identifying the Evaluated High point. Identifying the narrative structure is relatively straightforward except for identifying the evaluated high point. Table 3 depicts the microstructure that can be employed in scoring children's narratives using highpoint analysis. (See Peterson & McCabe, 1983, for more detail regarding this level of analysis.) Clinical assessment, however, does not require attention to such close

Insert Table 3 about here

details in most cases.

All clauses in a narrative fall into one of the micro-structural categories listed in Table 3 (adapted from Peterson & McCabe, 1983). For example, Appendages begin and end a narrative. Orientation, Complicating Actions and Resolutions are referential, informative clauses indicating who, what, when, where something happened (orientation) and what events occurred (complicating action and resolution). Evaluation differs from these kinds of informative clauses. Evaluation does not disclose what happened. Rather evaluation reveals the meaning a happening had for the narrator. There are many kinds of evaluation, as Table 3 shows. Some of these are obvious (e.g., "That was good"), while others such as *negative events* are quite subtle. As Labov (1972) pointed out, there are an infinite set of things that did not happen on any occasion. When a narrator uses negation to tell what did not happen (e.g., "My dad didn't keep his eyes on the road"), s/he is really identifying deviations from what people expected would happen, which is evaluative rather than informative per se.

Children normally evaluate their experiences a great deal. Children as young as 2 years begin to use evaluation (Miller & Sperry, 1988) and it becomes increasingly more frequent with age. In fact, Peterson & McCabe (1983, pp. 52, 57) have found that half of all comments from normal children aged 4-9 years are evaluated in some way. While evaluation is prevalent in so many narratives of young children, not all evaluation constitutes an

evaluated high point. What distinguishes an evaluated high point from other types of evaluation, is that the evaluation at the narrative's high point is concentrated in some way. For example, the evaluated high point or emotional heart of the following narrative is italicized:

(8-year old girl)

K: I really fight pete. Well whenever we get home from school, he starts an argument. He says, "You got to do that. You got to do that." Which is, when it's really his turn. I get so mad I punch him in the stomach about that hard and he goes screaming, "Mommy, Kim hit me." I mean it. But when he gets in trouble and I have arguments with Pete, especially one. Well, it was the day he went into my room. I was at school still, this was when I was in kindergarten and he went in my room and tore all my pictures down that I painted and he tore them up. And he broke one of my best, my very best doll, my Raggedy Ann, she was my favorite. I got another one. I love Raggedy Ann dolls. Then I told my mother and she came and he got it. Then we started arguing all over again. Boy once Pete talks, he can't stop talking.

Here, the narrator leaves no room for doubt about the heart of this experience for her, although there is some evaluation earlier in the narrative (e.g.,stomach is stressed, "I mean it, etc.).

IDENTIFY AGE APPROPRIATENESS OF NARRATIVE STRUCTURE

Table 1 is used to identify whether a child is using narrative

structures that are typical of his/her age group. For example, Narrative Two, a classic narrative, was produced by a five year old child. From Table 1 we see that the dominant structure for children aged 5 is end-at-a-high point, however, 21% of the 5 year olds studied produced more advanced classic narratives. The child who produced Narrative Two is functioning well within normal limits on narrative structure.

Also from Table 1 we find that the 8-year-old child who produced Narrative One, a chronology, is functioning within normal limits. In fact, as we have said, it is normal for individuals of all ages to use simple chronological narratives. Hence, if the narrative selected for scoring is a simple chronology, a second or third narrative should be selected in order to find a narrative structure that falls along the developmental continuum.

Issues which complicate the identification of narrative macro-structure: Sometimes, children will give you the main event of the story to see whether you are interested in hearing more. If you indicate your willingness to do so, they will back up, and tell you the events that led up to high point event and then resolve it. Do not penalize children for such normal departures from timeline sequencing. For example, one 7-year-old boy began his narrative, "I got bit by a crab," waited for a response indicating interest in hearing more, backed up to begin at the beginning with, "We went down to Wisconsin."

Problems with pronouns and word-finding will make narratives

generally less comprehensible. You might notice that there are word-finding problems in the narratives you collect, but this is a separate issue requiring a different type of analysis. Separate this out from issues of narrative even though narratives will be affected by these problems in some ways. A child with word-finding problems may sound to a naive listener as if he has problems with narrative; our job as speech pathologists is to distinguish between general discourse problems such as word-finding deficits and problems specific to narrative.

Also note that the assessment of the structural maturity of narrative in children should be distinguished from assessment of the truth value of what they say. Normal children will exaggerate or lie from time to time. One five-year-old asked the first author, "Do you know what? Every single tree fell down on our house because there was a snowstorm. I picked them up with one, with my pinky. All of them with my pinky. Do you believe that?" If children tell such coherent, albeit untrue, narratives, they do not have narrative language problems. They may have other problems, but those are outside the purview of speech and language pathologists.

As you become accustomed to this scoring procedure, you will be able to recognize structures as the child is talking to you at least well enough to determine whether the narrative you hear is a chronologically or miscellaneously structured one (of course you will know already if the narrative concerns death). In such cases, make doubly sure to collect more than three narratives.

INDIVIDUAL DIFFERENCES VERSUS DEFICITS

There are several sources of individual variation which we must be conscious of while evaluating narrative skill. First there are **individual differences within the normal population.** Some variation in performance is quite normal. Normal children at any given time may produce a chronological narrative followed by a classic one. Moreover, the same topic may elicit a leapfrog narrative from one four-year-old but a classic narrative from another four-year--old. There is some normal variation among age peers in terms of optimal performance. For example, compare the classic Narrative #2 produced by one five-year-old, and the more typical end-at-high point Narrative #3 produced by another five-year-old, (refer to Appendix B). This type of variation is common and should be expected in narrative production.

There are also **individual differences due to culture.** Most of the research reviewed in this paper has been done with white English-speaking children. It is critical to realize that there are substantial cultural differences in the way in which children structure their narratives, cultural differences that must be carefully distinguished from individual deficits. African-American children tell what has been called a topic-associating kind of narrative (Michaels, 1981), often thematically combining narration of events that happened at different times and places into one narrative (Rodino, Gimbert, Perez, & McCabe, 1991, under review; See Appendix B, Narrative #4 for an example of this). Hawaiian children tell talk-stories that weave teasing and

fantasy into repetitive routines for a number of participants (Watson, 1975). In a manner reminiscent of haiku, Japanese children tell extraordinarily succinct collections of experiences, often given in sets of three lines, rather than narrating the details of what happened on one occasion in the manner that white English-speaking children do (Minami & McCabe, 1991; See Appendix B, Narrative #5 for an example). Latino children rarely focus on sequencing events in their narratives, foregrounding instead narration of family connections and relationships (Rodino et al., 1991, under review). In fact, almost 50% of the narratives produced by Latino children contained no sequencing of any events at all (Rodino et al., 1991, under review). In story retellings, Hungarian children extensively embellish their recapitulations unlike American children (John Steiner & Panofsky, in press). Many of these styles are very different from specific language impaired children's narration, yet without careful attention they could be mistaken for leapfrogging, which would be developmentally inappropriate narration for their age group. Such misdiagnoses must be avoided.

Finally, there are **individual differences due to deficit.** As is exemplified by Narrative #6 (in Appendix B), some departures from normal developmental sequence reflect important deficits at the level of discourse. This is the kind of variation, mindful of age, culture, and normal variation, that we hope to register in order to address problems that will affect a

child's ability to read long before that child begins to read and fails. Recall the considerable body of literature reviewed in the introduction that links problems with narrative skill to reading comprehension difficulties. If a three-year-old has not yet referred to past events, there may be cause to worry. If a four-year-old never chains two, let alone more, events together in any kind of narrative sequence, there may be cause to worry. If a six-year-old is still struggling with sequencing events or not even chaining two events together in most instances, there may be cause to worry.

As speech and language pathologists, it is critical to separate out what is responsible for narrative differences exhibited by children we test. Is it the individual fluctuation characteristic of normal performance? Is it individual deficit? Or is it, instead, a matter of cultural differences? To date, the most important thing to realize is that a key difference between children with cultural differences in narrative structure versus children with narrative deficiency is that the former may not have sequences in their narrative that are given in a jumble, while children with Specific Language Impairment do have a sequence one can reconstruct in their narratives but that sequence gets jumbled in the telling (Miranda et al, under preparation). Either children of other cultures have no sequence to be jumbled (e.g., Latino children) or a different kind of sequence altogether (e.g., African American, Japanese) in their narratives.

Given that a narrative deficit is diagnosed, there are a few important things to say with respect to therapy. It is important that intervention efforts for narrative deficits take place throughout the child's day. Past efforts to improve narrative skills by talking one-on-one with a friendly adult for several hours a week over the course of several months have not been successful (e.g., McCabe & Peterson, 1989). Hence, intervention should focus on consultation with teachers and staff within the school environment and consultation with the child's parents (or primary caretaker). Furthermore, intervention with parents and child together is integral to the language therapy of pre-school children with narrative-level difficulties. The reasons for this are twofold: 1) pre-school children spend most of their waking hours with their parents (or primary caretakers), which makes parents (or primary caretakers) the logical choice to facilitate narrative skills through the child's day; 2) Some parental styles of talking about the past predict more optimal narrative development than other styles.

In a longitudinal study McCabe & Peterson (1991b) studied ten children talking about past events at home with their parents. The study began when the children were two; those children are now six. Some parents did not take no for an answer to questions like, "What did you do in school today?" Such parents talked at length about a variety of topics with their children, especially ones that seemed to interest the children (e.g., who had an accident in nursery school). Other parents

responded to their two-year-olds' inept narration by changing the subject frequently, never dwelling on any one topic about the past. The former parents--those who habitually extended topics concerning past events using a variety of techniques for doing so--were the ones whose children were the best narrators four years later. Parents who switched topics or corrected their children too much (e.g., "That's not the way it happened") had children who told rather stunted narratives by comparison.

These findings suggest that many parents will need direct instruction concerning optimal language facilitation techniques. It is not enough for the parent to be told to elicit narratives from their children, but they most be educated and supervised in facilitation techniques. For example, parents should be told to emphasize discussion of things that happened during times when they were separated from their children, because children see this as a real communicative exchange rather than the kind of test or school assignment they do poorly on (e.g., "Tell me what we did when our class went to the science museum."). From the age of 31 months, children are more likely to respond to prompts about events that occurred when they were not with their parents than when they were (McCabe & Peterson, 1991b).

Parents should also be encouraged to interweave narrative exchange among other language games (see McCabe, in press for various games prerequisite for narrative exchange presented in a format intended for use by parents). Children who do not know nouns and verbs, for example, are not going to be capable of much

narration.

In conclusion, a number of researchers have found that preschool children who are unable to tell a personal narrative as well as their peers can may be at risk for acquiring literacy. We proposed a method of eliciting and scoring personal narratives from preschool children and presented some normative data that would enable early detection of problems at the narrative level of language. We carefully distinguish between the kind of jumbled and incomplete event sequences told by children after the age of 4 years who have problems with language in general and narrative in particular and the kind of alternative storytelling styles of children from other cultures, cultures which do not value the kind of sequencing found in white middle-class narratives. We invite readers to try our method of narrative analysis on the additional narratives included in Appendix B and hope they enjoy the children's stories in the process.

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Assessment of Narrative Skills

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Assessment of Narrative Skills

Appendix A: CONVERSATION MAP FOR NARRATIVES OF REAL EXPERIENCE

1. Trip to doctor's office PROPS: COUGH

I went to the doctor's office the other day. I had to wait three hours to see him. There were twin brothers about five-years old waiting too. They kept trying to read magazines. But every time one brother picked out a magazine, the other brother wanted to read the same magazine. They would start fighting, and their mother would take the magazine away from them. They went through the whole pile of magazines and didn't get to read any of them.

- Do you have any brothers or sisters? (Follow child's answer with subprompts.)

- Do they fight or argue?

I'm still coughing from the cold I had (COUGH). When I finally got in to see the doctor, he gave me some pink pills that were about the size of a penny!

- Have you ever been to the doctor's office or the hospital?

When I go home, I have to visit my aunt who is in the hospital. She broke both of her legs and has to have them hooked up to some wires from the ceiling.

- Have you ever visited anyone in the hospital?

- Have you ever gotten hurt?

Appendix B[2]

NARRATIVE #1

(8-year old girl)

E: Have you ever gotten jabbed by anything?

B: By a bee.

E: By a bee. Oh, tell me about it.

B: It got kind of cool one day and my grandma came. She called me and she wanted to know where Dennis was.

E: Where Dennis was?

B: Yeah, and I ran outside to tell her and I was running and I stepped on a bee.

E: You went outside to tell her and you were running and you stepped on a bee. Ah. Then what?

B: Nothing. I just went in the house and had to have something on it.

Questions:

1. Are there two past events? Yes, came, called, ran, stepped, went, had to have.

2. Are there more than two such events? Yes--6.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? There is

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[2]Narratives #1, 2, 3, and 7 are from the Peterson & McCabe (1983) corpus. Narrative #4 is from the Rodino et al. (under review) corpus. Narrative # 5 is from the Masahiko & McCabe (1991) corpus. Narrative #6 is from the Miranda et al. (under review) corpus. The rest of the following narratives appear here for the first time.

a logical sequence to getting stung and being medicated for that.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? Yes.

5. Is there an emotional high point to the narrative? No, in fact this narrative is almost completely devoid of emotion.

Thus, this narrative is classified as a chronological narrative, a typical, if not optimal, structure produced by children of all ages

NARRATIVE #2

(5-year old girl)

E: Have you ever gotten jabbed with anything?

L: Uh huh. I got jabbed with a bee.

E: By a bee. Oh, tell me about it.

L: See, I got jabbed on my foot. I was barefooted. I screamed and I screamed and I cried and I cried. I screamed and I screamed. Until my next door neighbor came out and my Dad came out and my brother came out. And, they all carried me into the house but after that happened I got to sleep overnight with my neighbor.

Questions:

1. Are there two past events? Yes, including jabbed, screamed, cried, came, carried, got to...

2. Are there more than two such events? Yes.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? Yes.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? Yes.

5. Is there an emotional high point to the narrative? Yes, the narrator unmistakably marks her pain by repetition of the screaming and crying verbs and by noting the parade of people who came to her rescue.

6. Does the narrator go on to resolve the story, telling listener how things turned out, including how problems were solved or how family went home after an exciting encounter? Yes, the narrator tells us that "after that happened" she got a special treat.

Thus, this narrative is termed a classical structure, and is among the best productions from 5-year-olds.

NARRATIVE #3

(5-year old girl)

E: Did you ever go to the doctor's office?

D: Uh-uh. No, yes, over Dr. Graham's house, night.

E: You went there? What happened?

D: Nothing. Just I sticked around and he told me to come in first and then he, and, that's all I had to do. And taked me out, out, and and he put me in the doctor office. And I had a cold.

E: You did?

D: Last night.

E: Right.

D: And I, I was scared to come in. And he didn't shot me or nothing.

E: He didn't shot you or anything?

D: Uh-uh. He didn't even shot me.

E: He didn't shot you?

D: He gave me them, them tiny pills too, just like you. That's only reason I had.

Questions:

1. Are there two past events? Yes, sticked, told, taked out, put, gave.

2. Are there more than two such events? Yes.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? Going to the doctor's office is a tightly scripted activity, so yes, there is such a sequence.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? Yes it does.

5. Is there an emotional high point to the narrative? By use of negation and repetition the narrator clearly marks the high point--"He didn't even shot me. He gave me them tiny pills, too."

6. Does the narrator go on to resolve the story, telling listener how things turned out, including how problems were solved or how family went home after an exciting encounter? No, narrator

refrains from telling us about any treats he received for good behavior or about going home afterwards--resolutions typically provided by older children.

Thus, this narrative would be classified as an ending-at-the-high-point narrative, typical of five-year-olds' productions.

NARRATIVE # 4

(7-year-old African American girl)

E: Have you ever been in a car accident?

C: Yes when I was with my aunt and my mother. And my mother was driving the car but there was a truck in the way and she was trying to move over and pass him, but the truck was too big. And when she, and she moved over. And when she was driving, she moved back the other way. And the mirror on the outside of the door--it bumped into the side of the car--not the mirror. But on the side of the car it bented. My father got mad at her because it wasn't her car. It was my father's. And he, when my, we got home, my mother said, "Go tell your father it's time to eat." And I told my daddy. And he said leave him alone. And he didn't come to eat until we were sleeping. But he didn't. He did eat, but while we were asleep. But he was mad. So he moved out. Cause my mother bent the car, but only on the side.

E: Okay. Well that was very good.

C: And one day somebody threw a rock and hit my daddy's, my father's car. And the mirror--it broke off. And me and my cousin saw it, and we were mad too. And after that he [father] moved

out.

Questions:

1. Are there two past events? Yes, moved, bumped, bented, said, etc.

2. Are there more than two events? Yes.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? Yes accidents, their antecedents and consequences, have temporal-causal ordering to component events.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? Yes.

5. Is there an emotional high point to the narrative? It is at this point that the model we propose fails to capture the structure of narration displayed by this girl. She thematically links two separate accidents in this one narrative, and the theme linking the two remains implicit. The theme here is only nominally about car damage and really relates to the child's exploration of her parents' separation in two ways, one siding with her mother's perspective and the second with her father's. (See Michaels, 1981; Rodino et al., 1991, under review for further discussion of African American narrative style).

NARRATIVE #5

(8-year old boy)

A: As for the first, you know, got at Ehime, you know, hurt a lot. As for the second, you know, knew, you

know, hurt, you know. Well, you know, didn't hurt so much, you know. The next was the same again. As for the very last, you know, didn't hurt at all.

Questions:

1. Are there two past events? No, only "got".

Though in the present framework, this would be classified as merely a one-event narrative and be found atypical of productions by children of this age, such a classification would be inappropriate because this narrative was told by a Japanese child. Its structure is elegant, but quite different from that of American English-speaking children. See Minami & McCabe (1991) for more details on Japanese children's narrative structure.

NARRATIVE #6

(9-year old boy)

E: Last week, I had a sore throat. I went to the doctor and I had to get a shot. Have you ever gotten a shot at the doctors?

J: Yeah.

E: Tell me about it.

J: I was losing my voice, I was having asthma attack real bad. So, my friend go it and he got to me while I was coughing in the middle of the night, and he got a shot right on my leg and I had to take my tonsils out, I didn't like it. And....

E: You had to get your tonsils out?

J: That's what the doctor said.

E: And then what happened?

J: I went into the hospital for a week. And...because a I had a real bad asthma thing, and they just put me in the hospital for a week. And and I and I broke my knee.

E: You broke your knee?

J: Yeah. While I was ridin my bike, I was jumpin on a curb and and I was it was I was slidin through the air, and it looks like I broke my knee. I couldn't move nothin.

E: What happened?

J: My mom took me to the hospital and said um, said uh....the doctor said we he might be, we might be, we're going to....he has to do, can't ride his bike in the street, I can't ride my bike in the street anymore. Cause uh I get hurt. My friend David had a car accident.

E: He did?

J: Yeah, and he um he's in the hospital right now be...and (pause) he stopped and said I forgot. He said uh, they said uh, he can't he couldn't he can't, they put a metal thing on his head. He will not talk. He's deaf now.

E: He's deaf?

J: Uh-uh. And they, they're gonna take it off soon. So they did, not he can talk now. And doin OK now, they took it off already. Uh...my friend, my mom's friend works in a hospital and in somewhere in Roseville. I forgot what's her name (pause). That's all I can think of.

Questions:

1. Are there two past events? Yes, including went, had to get, got, had to take out, put, broke, etc.

2. Are there more than two such events? Yes.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? Yes, as we have said, injuries and their treatment have a logical sequence in how they unfold.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? No, the narrator jumps from talk of asthma attacks to getting his tonsils out to breaking his knee to his friend's accident without developing any of these or relating them to each other.

Thus, this narrative is a leapfrog structure, very atypical of productions of normally developing white English-speaking children. In fact, this child was diagnosed as specific language impaired.

NARRATIVE #7

(4-year old girl)

E: When I go home I have to visit my aunt who's in the

hospital. She broke both of her legs. And she has to have them kind of hung up, suspended from the ceiling with those little wires.

B: She had to have cast on.

E: That's right.

B: My sister had, she's had. She broke a arm when she fell in those mini-bike.

E: Tell me about what happened.

B: She broke her arm. She had, she went to the doctor, so I, my Dad gave me spanking, and I

E: Your Dad gave you what?

B: A spanking to me.

E: A spanking?

B: Yeah. And she had to go to the doctor to get a cast on. She had to go get it, get it off and, and it didn't break again.

E: And then it didn't break again?

B: No. She still got it off. She can't play anymore.

E: She can't play anymore?

B: She can't play we, she can play rest of us now.

E: Oh good. ... Have you ever had a shot?

B: Mm, she has cast on. When she was home. When she came back and she, and she, and she hadda go back and, take off the cast.

E: She had to go back and take off the cast?

B: Yeah. The doctor.

Assessment of Narrative Skills

Questions:

1. Are there two past events? Yes: broke, went, gave, had to go, came back, had to go and take.

2. Are there more than two such events? Yes.

3. Is there a logical, perhaps causal sequence to those events in the real world or could they have occurred in any order? Yes, events precipitating an injury and the follow-up treatment have a tight causal sequence in the real world.

4. Does the narrator's order of delivering those events mirror the sequence in which the events must have logically occurred? No, narrator jumps around in time and leaves out what we infer was her iniquitous act that actually caused her sister to fall off her bike and break her arm.

Thus, this narrative is termed a leapfrog narrative, quite typical of four-year-old narration.

NARRATIVE # 8

(23-month-old girl)

J: I hied the big boy.

Questions:

1. Are there two past events? Again, no there is only one event, and that is an idiosyncratic formation.

Such one-event narratives are really quite good productions for children not even two years old.

NARRATIVE # 9

(31-month-old boy)

M: Did you like the puppy?

Assessment of Narrative Skills

N: He taste my knee.

M: He tasted your knee?

N: Theth. an puppy chase me!

Questions:

1. Are there two past events? Yes, "taste" and "chase".

2. Are there more than two events? No.

This two-event narrative is typical of two- to three-year-old children.

NARRATIVE # 10

(2 1/2-year-old boy)

N: 'Member my book? My babysitter b(r)oke it.

Questions:

1. Are there two past events? No, only one, "b(r)oke." Again, even though the pronunciation is not exactly correct, this is not a narrative problem.

Although the chart does not depict narratives by such young children, from the literature review in the paper we found that such one-event narratives were quite normal productions from 2-year-old children.

NARRATIVE #11

(3-year-old boy)

N: I go to Janie's school and da man hid a white rabbit."

Questions:

1. Are there two past events? Yes, there are two events, "go", and "hid." Even though they are not marked morphologically as past tense, that would be seen as a grammatical issue rather than

a narrative one.

Such two-event narratives are common from 3-year-old children.

NARRATIVE # 12

(four and one-half year old boy)

E: (rubs elbow) Oh, I hurt my elbow.

M: Hurt head. (boy touches head as he says this)

E: You did? Tell me about it.

M: Fell down.

E: Yeah? What else?

M: That's all.

1. Are there two past events? Yes, "hurt" and "fell".

2. Are there more than two events? No.

This two-event narrative is atypical for a 4 1/2 year old boy. comparison with above narratives reveals that it is more similar to the productions of the 2 1/2 year old (Narrative #9) or the 3 year old (Narrative #11) than to the typical multiple-event, leapfrog narratives told by 4 year olds (e.g., Narrative #7). This little boy is diagnosed as having Specific Language Impairment. His narrative skills are also delayed, unfortunately.

Table 1

Highpoint Classification of Children's Three Longest Narratives as a Percentage of the Total (North American, White, English-Speaking

Age in Years:	Two-Event	Leap-frog	End At High Point	Classic	Chrono-logy	Misc.
3 1/2	63.3	10	3	3	20	
4	15	29	2	12	23	18
5	10	4	29	21	25	10
6	10	6	23	35	15	10
7	2	0	17	48	25	8
8	0	0	17	62	21	0
9	6	0	17	58	13	6

Note that this table was adapted from Peterson and McCabe (1983) and McCabe and Peterson (in press). There were 10 children assessed at age 3 1/2 (McCabe & Peterson, in press), and 16 children at each of the other age groups (Peterson & McCabe, 1983).

Table 2

Contentless Responses to Child's Answers

1. REPEAT EXACT WORDS OF THE CHILD WHEN HE/SHE PAUSES.
2. OR SAY, "UH, HUH."
3. OR SAY, "TELL ME MORE."
4. OR SAY, "THEN WHAT HAPPENED."

Table 3

Types of Clauses in High Point Analysis

Appendages

Abstracts - Summaries of the narrative that occur at the beginning.

Attention-Getters - Explicit bids for listener attention.

Prologues - Statements of the ending or lasting significance of a narrative, occurring at the beginning.

Codas - Formalized endings of a narrative.

Orientation - Statements that provide the setting or context of a narrative, including:

Participants

Time

Location

General conditions

Tangential information

General cases

Imminent events

Objects or features of the environment

Complicating Actions - Specific events which occur before the evaluative high point of the narrative. (refer to past events, although children may either overregularize endings or omit past tense morphemes. Thus, "he chase me" would count as complicating action

(table continues)

if it referred to a real past event even though past tense is not used; similarly, "I taked it out" would also count even though overregularization is used.)

Resolutions - Specific events which occur after the high point, and resolve the high point action or crisis.

Evaluation - Statements or words that tell the reader what to think about a person, place, thing, event, or the entire experience, including:

Onomatopoeia ("It went bam.")

Stress ("I screamed and I screamed"--heightened tone of voice)

Elongation ("We had to stay a looong time.")

Exclamation ("Oh boy!")

Repetition ("I screamed and I screamed and..I screamed and I screamed")

Compulsion words ("We had to come in then.")

Similes and metaphors ("His eyes got as big as tomatoes.")

Gratuitous terms ("very," "really," "just")

Attention-getters ("I got to tell you the important part.")

Words per se (e.g., finally, accidentally, squished, scared)

Exaggeration and fantasy ("I picked them [trees] up with my pinky."

Negatives ("He didn't shot me or nothin'.")

Intentions, purposes, desires, or hopes ("I hoped Santa would bring me a new one.")

Hypotheses, guesses, inferences, and predictions (We didn't

(table continues)

think it would rain.")

Results of high point action (.."I cut myself with the knife. Blood came running out.")

Causal explanations ("He hit me in the head with a rock, so I threw one at him.")

Objective judgments ("My brother liked my snowman much better than he liked my sister's."

Subjective judgments ("That was my favorite.")

Facts per se ("I caught the biggest fish.")

Internal emotional states ("She didn't care about me.")

Tangential information ("She gave me ten dollars for going in there. Ten dollars is a lot of money when you're little.)

Adapted from Peterson & McCabe (1983). Developmental psycholinguistics.

Figure 1. Questions for scoring narrative structure.

The white English-speaking North American model.